Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– 1st / 2nd • EXAMINATION – SUMMER 2013

Subject Code: 110004 **Date: 18-06-2013**

Subject Name: Elements of Civil Engineering

Time: 02:30 pm – 05:00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain the fundamental principles of surveying	**07**
	(b)	The distance between two points on the ground was measured with 30 m chain and found to be 1500 m. The same distance was measured with a 20 m chain and found to be 1450 m. If the 30 m chain was 5 cm too short, what was the error in the 20 m chain?	**07**
Q.2	**(a)**	The following staff readings were taken on a uneven ground with a 4 m leveling staff. Calculate reduced levels of all the points by Height of instrument method and apply usual checks. The instrument was shifted after 3rd, 6th and 9th readings. The first reading was taken on a bench mark of 100 m. 1.20 , 2.65, 3.50, 2.40, 1.95, 0.90, 1.80, 3.70, 2.50, 0.85, 1.70	**07**
	(b)	Define: 1) Bench mark .2) Height of Instrument. 3) Magnetic declination. 4) Reduced level 5) Magnetic meridian.	**07**
Q.3	**(a)**	How will you calculate the area having irregular boundary with the help of a plannimeter?	**07**
	(b)	How will you calculate capacity of a reservoir?	**07**
Q.4	**(a)**	Discuss the requirements of good quality bricks.	**07**
	(b)	Explain the different types of paints used in civil engineering.	**07**
Q.5	**(a)**	Explain general principles of building planning	**07**
	(b)	Discuss various construction materials used in civil engineering	**07**
Q.6	**(a)**	With the neat sketch explain hydrological cycle.	**07**
	(b)	What are the various modes of transportation? Discuss them	**07**
Q.7	**(a)**	Write short note on Traffic control devices.	**07**
	(b)	Discuss the methods to control the flood.	**07**

****